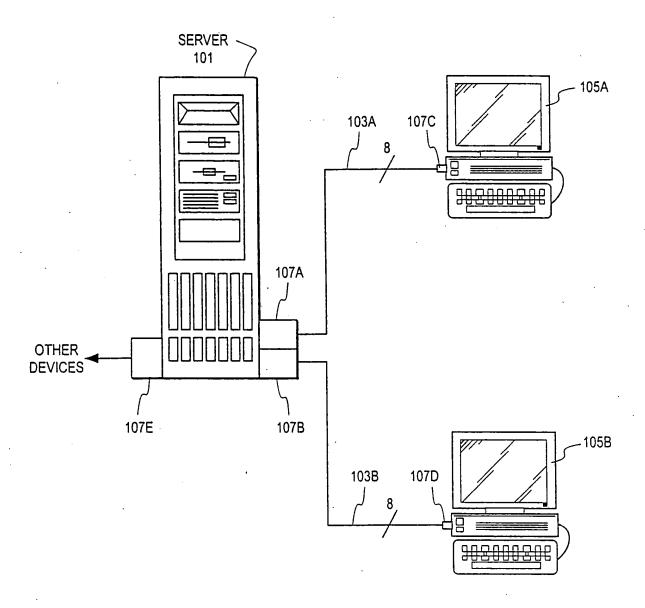
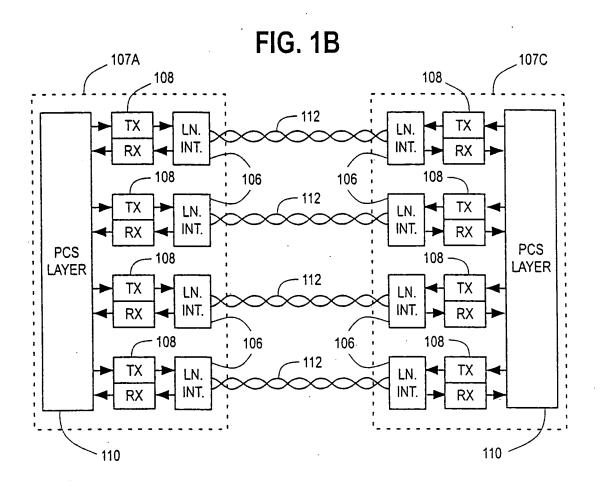
TITLE: GIGABIT ETHERNET TRANSCEIVER WIT ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

FIG. 1A



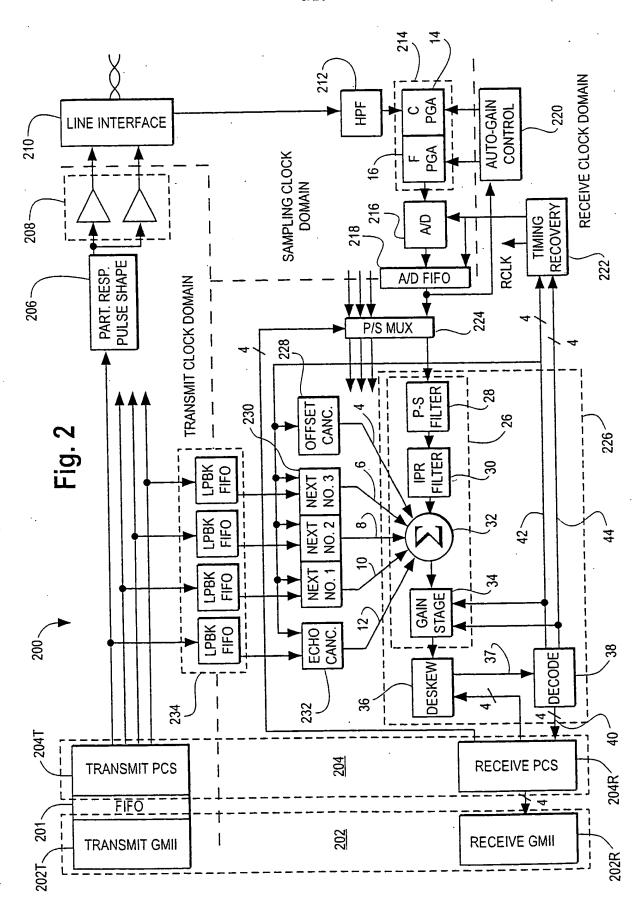
TITLE: GIGABIT ETHERNET TRANSCEIVER WIT ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000



TITLE: GIGABIT ETHERNET TRANSCEIVER WIT ANALOG FRONT END

INVENTOR: BEHZAD

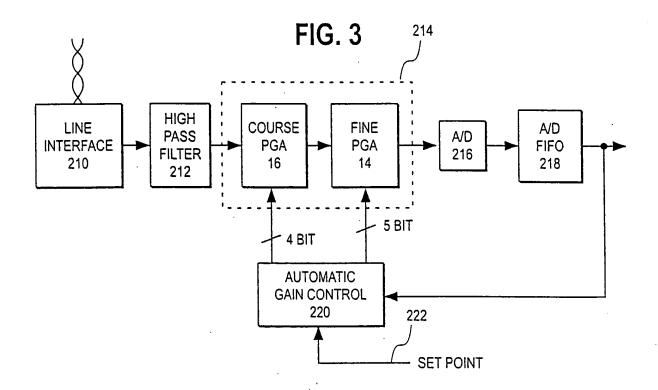
APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

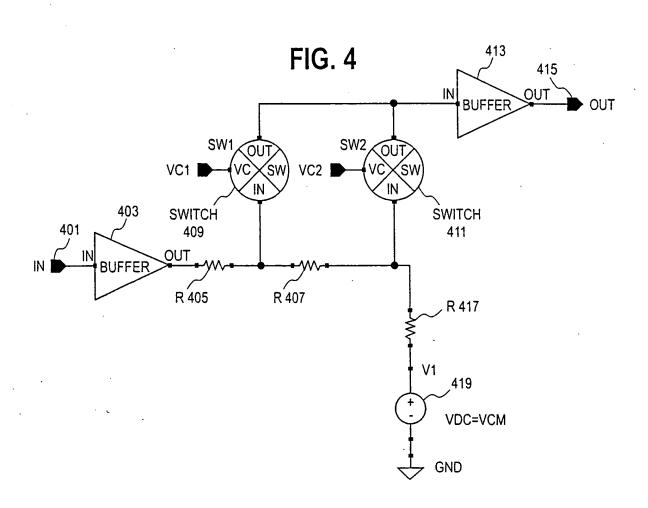


TITLE: GIGABIT ETHERNET TRANSCEIVER WIT

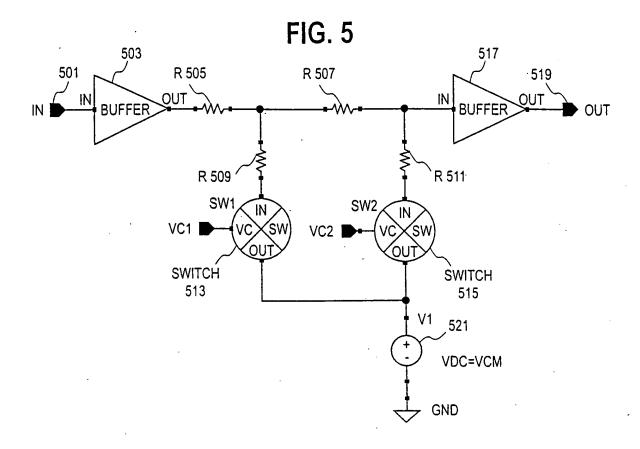
ANALOG FRONT END INVENTOR: BEHZAD

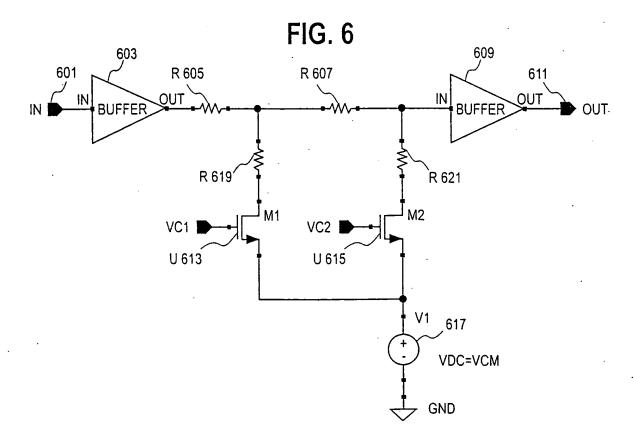
APPLICATION NO.: UNASSIGNED, CONF. NO. : DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000



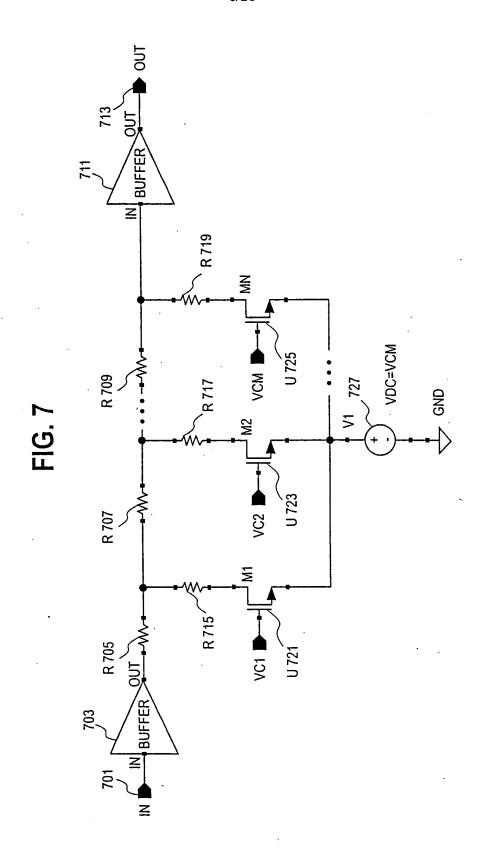


TITLE: GIGABIT ETHERNET TRANSCEIVER WIT ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000





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TITLE: GIGABIT ETHERNET TRANSCEIVER WIT ANALOG FRONT END APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000 OUT 7/28 BUFFER 821 Z R2N M2N 819 GND J SLICES Σ R R 809 R 815' N STAGES PER SLICE **R** 823 R 807 1_{M11} VC12 R 811 U 819 R 805 OUT 817 BUFFER

TITLE: GIGABIT ETHERNET TRANSCEIVER WIT ANALOG FRONT END INVENTOR: BEHZAD

APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

FIG. 9

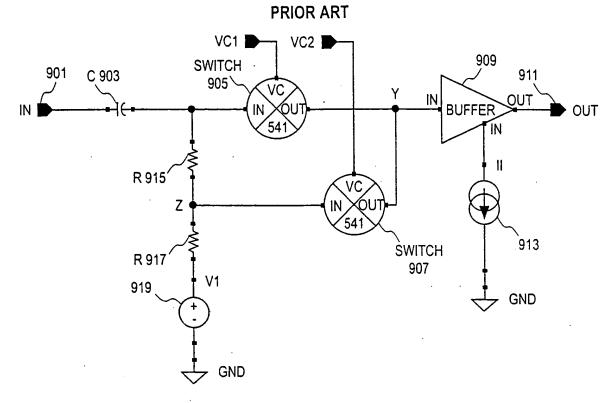
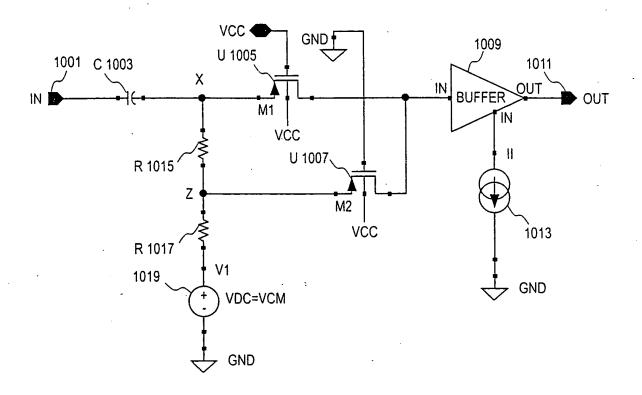


FIG.10 PRIOR ART

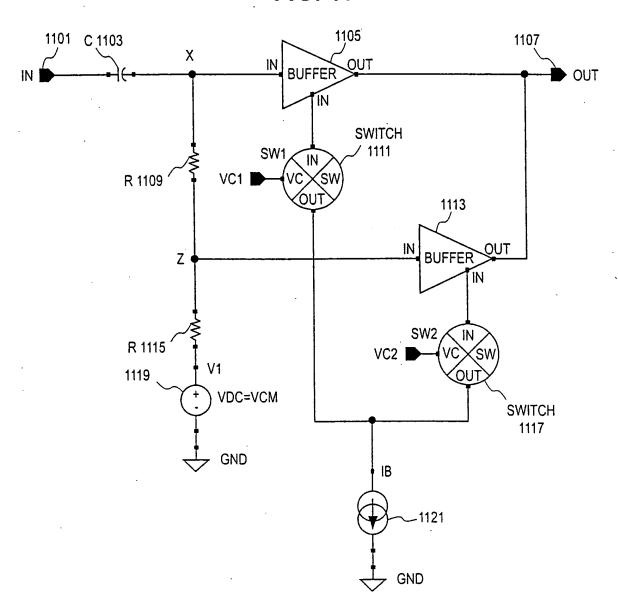


TITLE: GIGABIT ETHERNET TRANSCEIVER WIT ANALOG FRONT END

INVENTOR: BEHZAD

APPLICATION NO.: UNASSIGNED CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

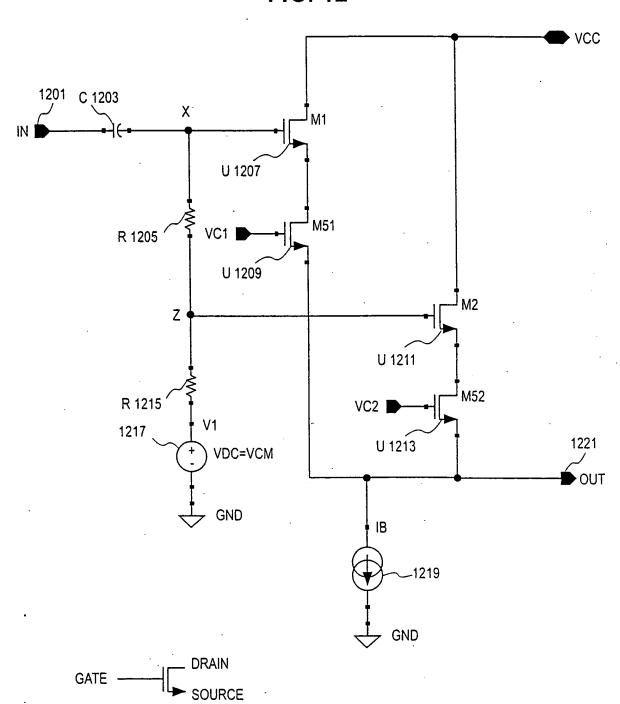
FIG. 11



TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END

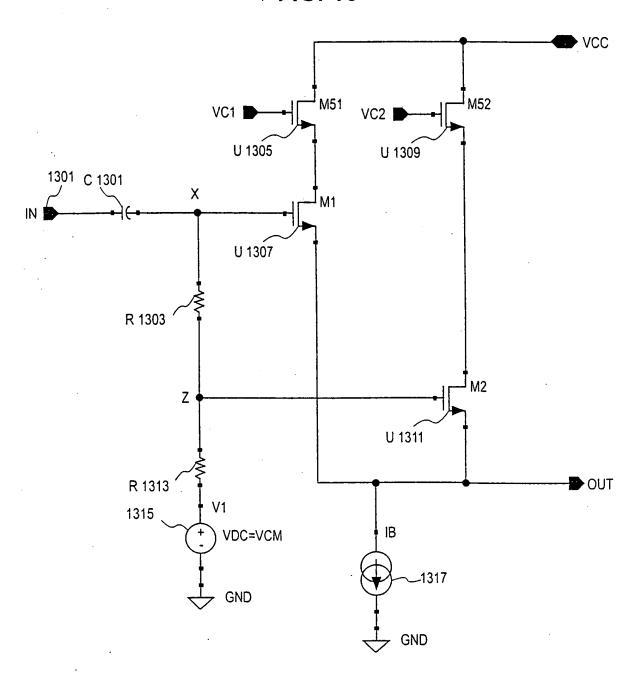
INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

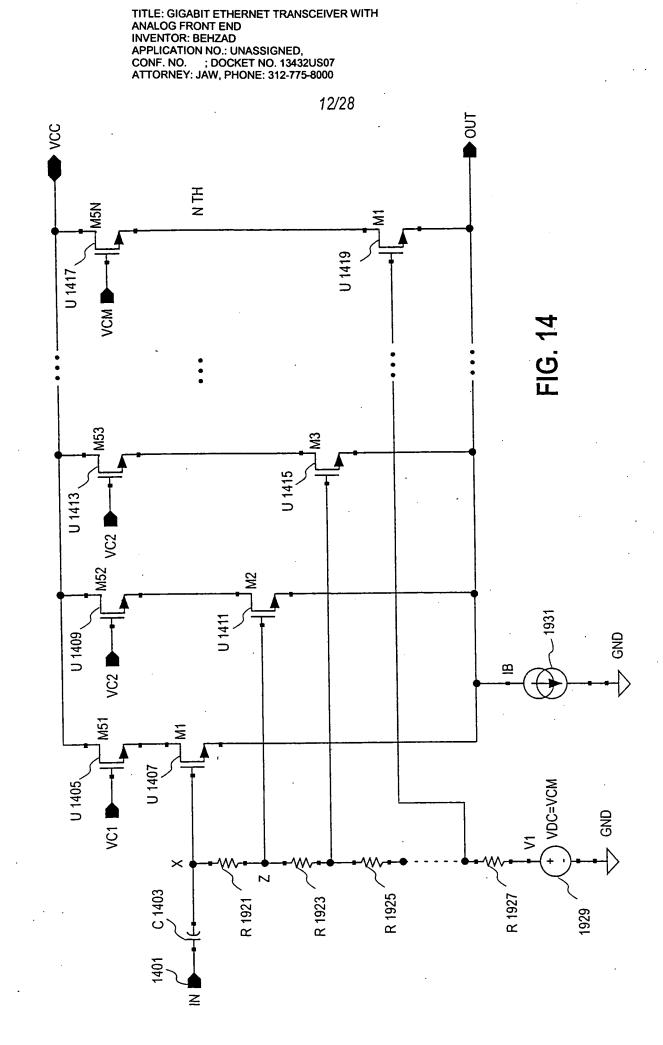
FIG. 12



TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

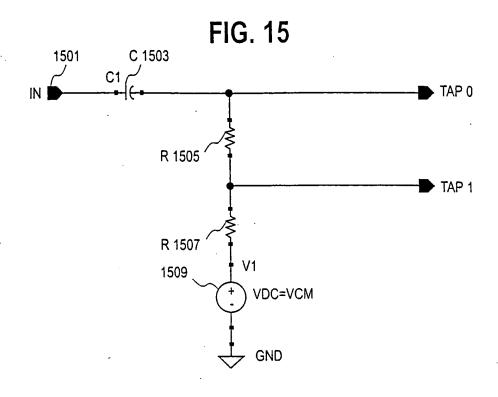
FIG. 13

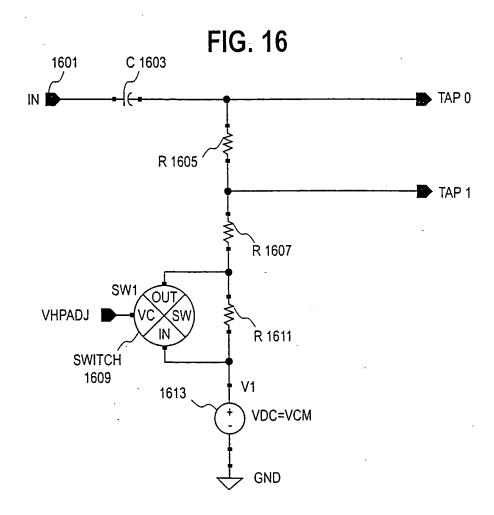




TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

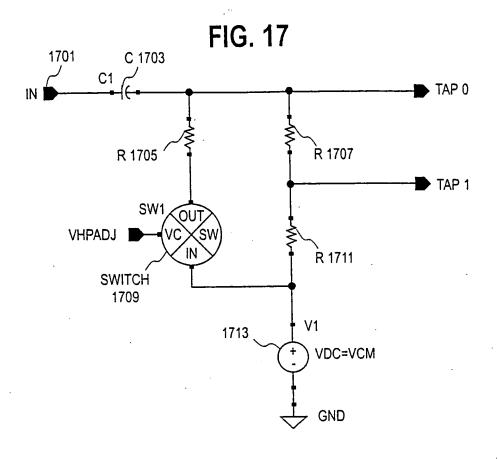
13/28

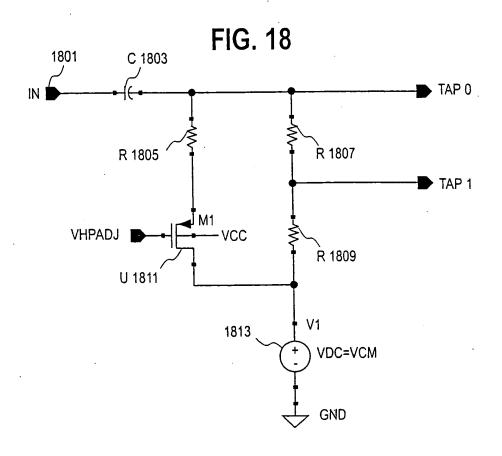




TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END

INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000



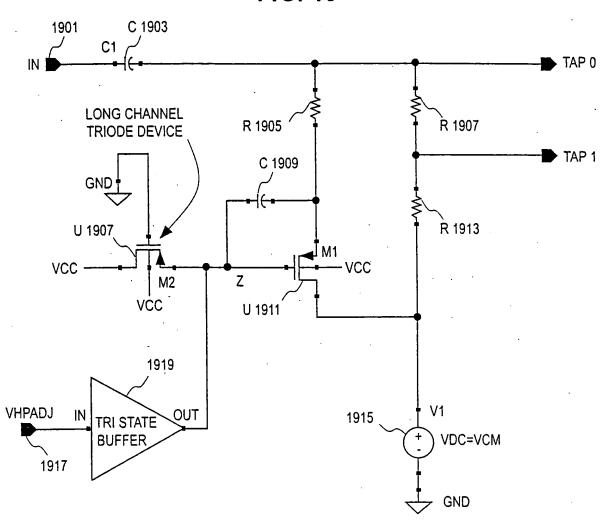


TITLE: GIGABIT ETHERNET TRANSCEIVER WITH

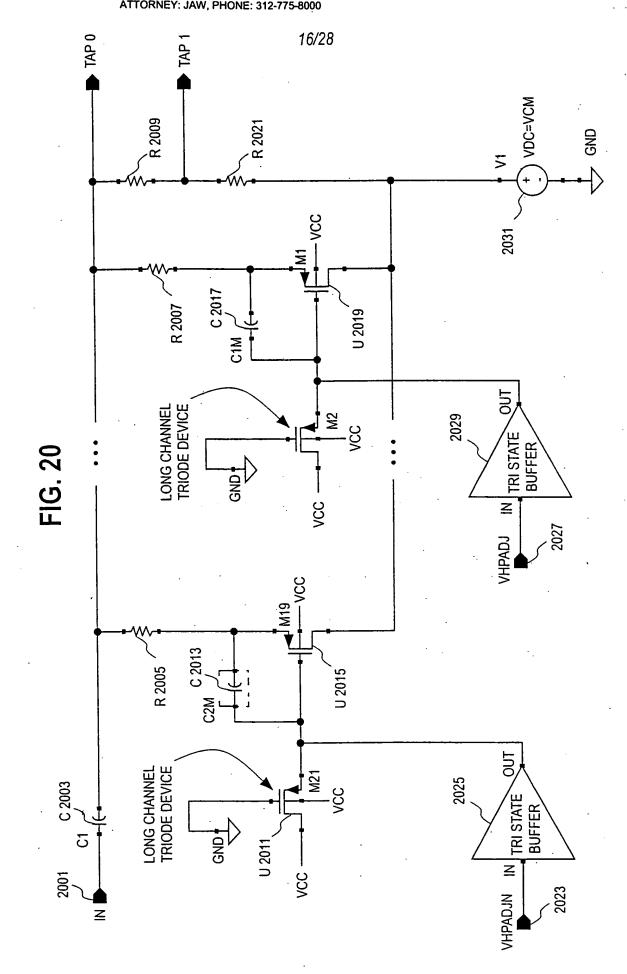
ANALOG FRONT END INVENTOR: BEHZAD

APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

FIG. 19



TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000



TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000 17/28 2135 / BUFF R BUFFER 7 Z R 2117 2119 SW6 **R**6 R 2115 2129 83 R 2113 **R**4 R3 VC2 R_2 R 2107 2121 VC1 Ξ R 2105 **DO**

FIG. 21

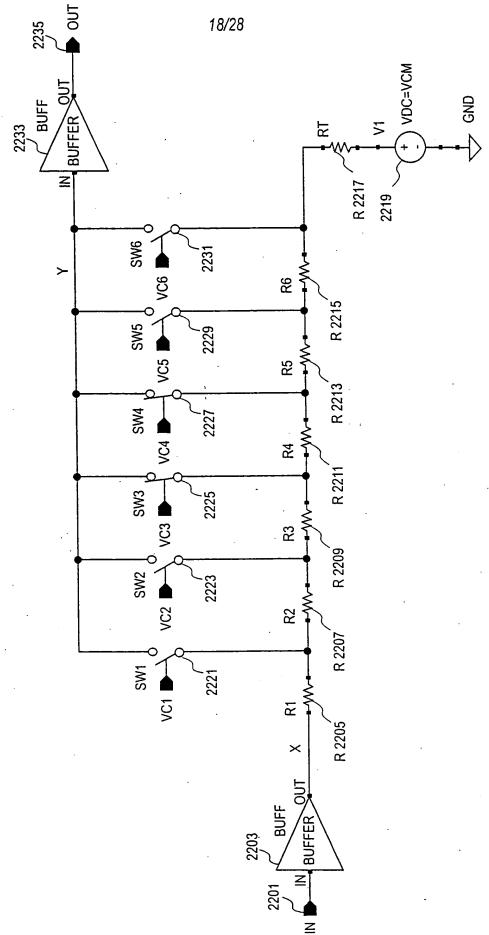
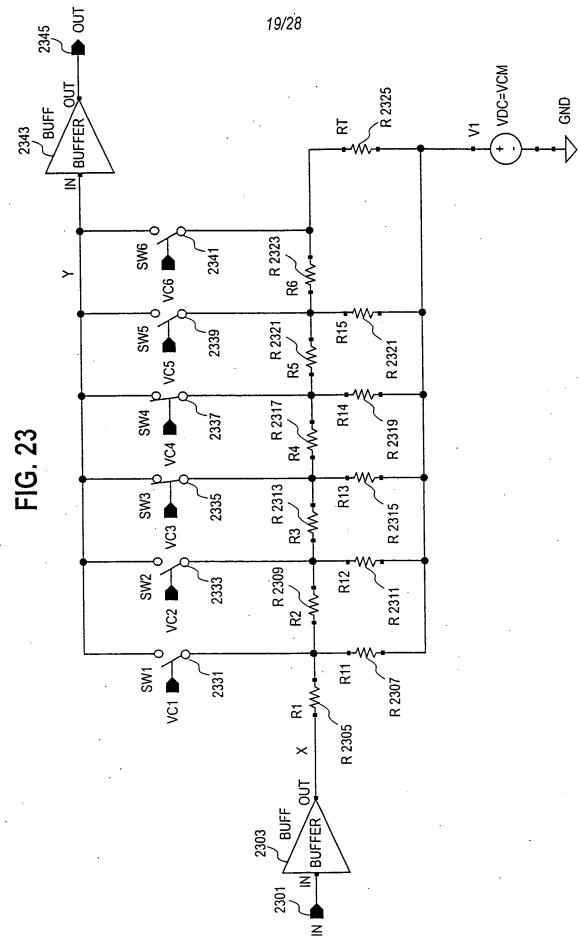


FIG. 22

TITLE: GIGABIT ETHERNET TRANSCEIVER
WITH ANALOG FRONT END
INVENTOR: BEHZAD
APPLICATION NO.: UNASSIGNED,
CONF. NO. ; DOCKET NO. 13432US07
ATTORNEY: JAW, PHONE: 312-775-8000

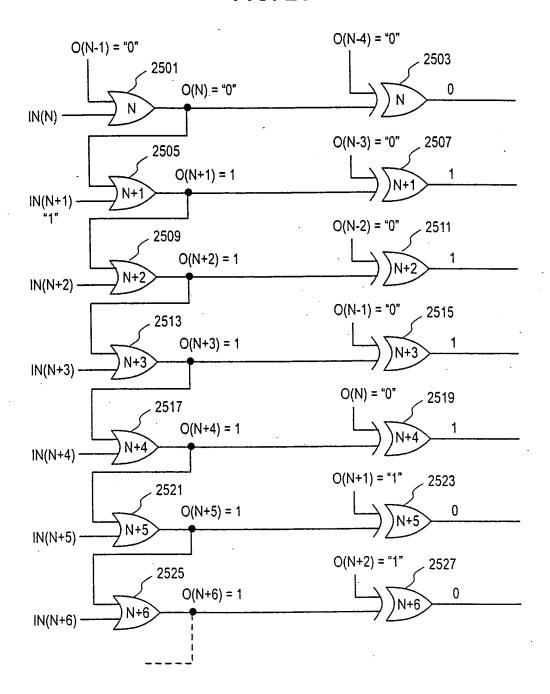


TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000 20/28 VDC=VCM R 2429 GND BUFF R 5 R 2431 Z R 2429 SW7 2445 R7 R16 R 2423 SW6 R 2427 **R**6 R15 R 2421 SW5 R 2425 R5 **R14** R 2415 R 2419 **R**4 R 2409 R13 VC3 VC3 OUT P OUT P RO E437 RO N R 2417 83 2430 P R12 R 2407 SW2 R 2413 R_2 R11 SW1 2433 **V**C1 쮼 R 2405 2403 _____BUFF BUFFER

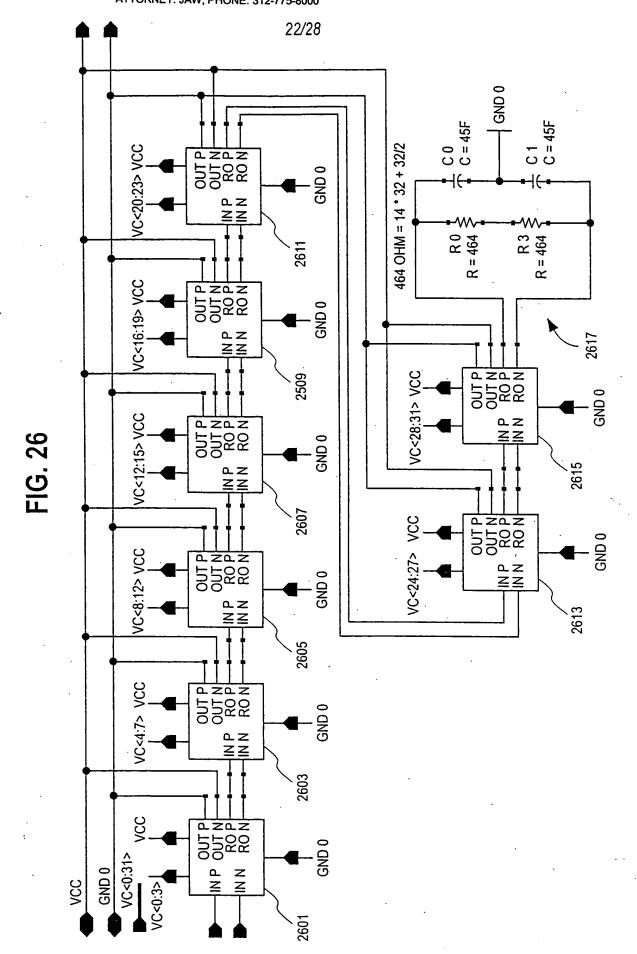
TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07

ATTORNEY: JAW, PHONE: 312-775-8000

FIG. 25



TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000



TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END

INVENTOR: BEHZAD

APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

FIG. 27

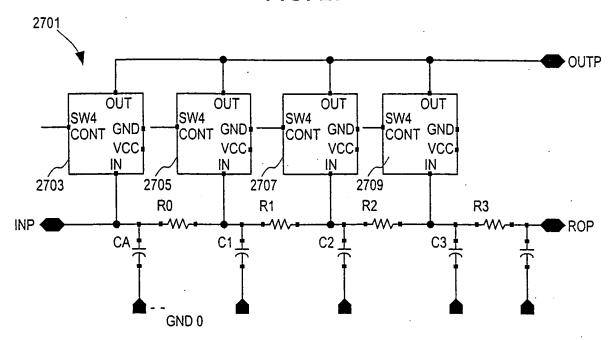
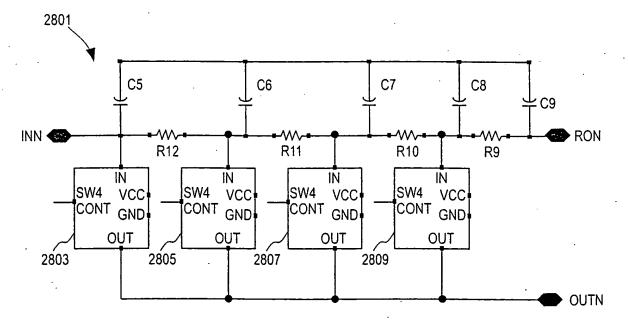


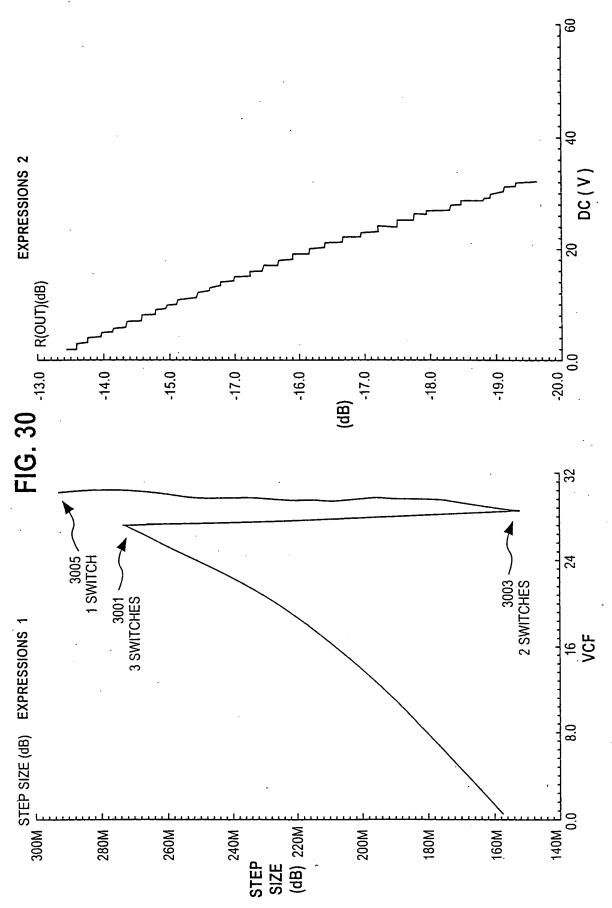
FIG. 28



TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000 24/28 4SWI 16 FREQUENCY RESPONSE 1 SWITCH ON (EFFECT ON BW) 2901 100M 2903 FREQ (Hz) 10M (dB)-40 -19 ဇ္ -20 9--50 -70 MEASURED EXPRESSIONS ot VCF **DB10 MHZ GAIN DB MAX GAIN** 1DBHPBW 3DB - BW **3DBHPBW** 1DBIPBW 3DBIPBW 8.0 160M 110M 8.80M 4.930M 4.870M 4.810M 70.0M 240M 8.60M 170M 180M 120M -16.0 -20.0 120M -13.0 -17.0 8.40

TITLE: GIGABIT ETHERNET TRANSCEIVER
WITH ANALOG FRONT END
INVENTOR: BEHZAD
APPLICATION NO.: UNASSIGNED,
CONF. NO. ; DOCKET NO. 13432US07
ATTORNEY: JAW, PHONE: 312-775-8000

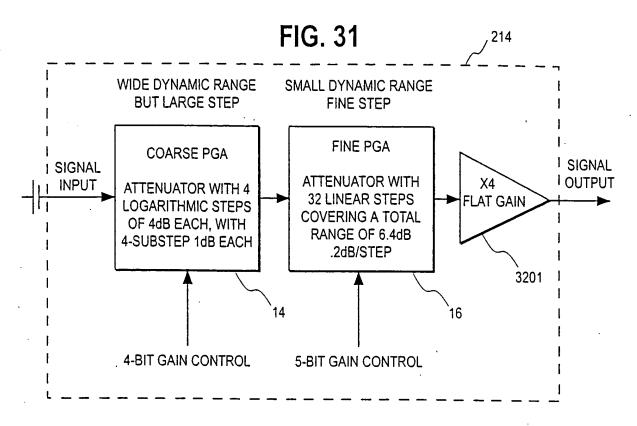


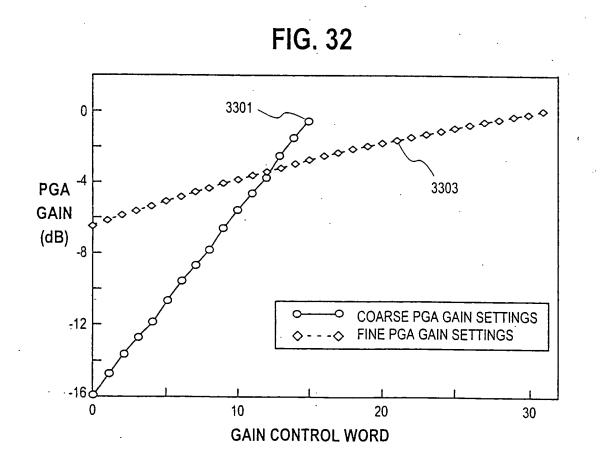


TITLE: GIGABIT ETHERNET TRANSCEIVER WITH ANALOG FRONT END

INVENTOR: BEHZAD APPLICATION NO.: UNASSIGNED,

APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000





INVENTOR: BEHZAD
APPLICATION NO.: UNASSIGNED,
CONF. NO. ; DOCKET NO. 13432US07
ATTORNEY: JAW, PHONE: 312-775-8000 27/28 **COARSE GAIN FAGCOVFLW** 3321 **FINE GAIN U4.0 U5.0** 3328 LOAD LOAD COARSE GAIN CONTROL **FINE GAIN** CONTROL **U19.15** U23.18 3319 3325 SELECT 0 SELECT XΩX ΜX 3323 3317 NOTE 2 NOTE 1 NOTE 1: SATURATES AT LEVELS 2^{19} -1 AND 0 NOTE 2: SATURATES AT LEVELS 2^{23} -1 AND 0, AND SETS FAGCOVFLW UPON SATURATION NOTE3: FAGCOVFLW IS RESET ONLY BY FAGCRST 15X2¹⁸ 3315 ERROR FIG. 33 3313 3309 LOAD SELECT ΧΩ Z-128 3307 CLEAR (CAGCRST II ~ CAGCFRZ) && AGCSAMPO (FAGCRST II ~ FAGCFRZ) && AGCSAMPO U14. 3303 3305 \geq 3311 **S8.7** 3301 REF. LEVEL (22) A/D FIFO OUT (216) CAGCRST AGCSAMPO CAGCHIGEAR **FAGCRST**

TITLE: GIGABIT ETHERNET TRANSCEIVER

WITH ANALOG FRONT END

TITLE: GIGABIT ETHERNET TRANSCEIVER WIT ANALOG FRONT END INVENTOR: BEHZAD

APPLICATION NO.: UNASSIGNED, CONF. NO. ; DOCKET NO. 13432US07 ATTORNEY: JAW, PHONE: 312-775-8000

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FIG. 34

CABLE LENGTH (m)	100 BASE- TX	GIGABIT, 100 OHM	GIGABIT, 85 OHM	GIGABIT, 115 OHM
0	3.691281	4.193192	4.193192	4.193192
20	3.806628	4.501316	4.362110	4.291369
40	3.877284	4.528136	4.457336	4.429949
60	3.894216	4.733644	4.695307	4.646305
80	4.055372	4.878569	4.847844	4.810019
100	4.225522	4.983545	4.991296	4.968900
120	4.357733	5.134131	5.194401	5.154263
140	4.556012	5.266919	5.380943	5.366309
160	4.764462	<u>-</u>	-	•

TARGET E{IXI} = A/D CLIPPING LEVEL X (E{IXI}/RMS)/(PEAK/RMS) = 127 X 0.7979/5.2 = 20